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- **Prof. (Dr.) Pranab K. Dan**, Rajendra Mishra School of Engineering Entrepreneurship, IIT KGP
- **Dr. Dipankar Debnath**, Electrical Engg. Dept, IIT KGP
- **Prof. (Dr.) Koushik Biswas**, Dept. of Metallurgical and Materials Engg., IIT KGP
- **Prof. (Dr.) Subhasish Basu Majumder**, Material Science Center, IIT KGP
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- **Prof. (Dr.) Subhasis Bhaumik**, Dept. of Aerospace Engineering and Applied Mechanics, IEST.
- **Dr. Arijit Sinha**, Dept. of Metallurgical Engineering, Kaji Nazrul University
- **Dr. Debraj Bhattacharya**, GITAM Hyderabad Business School
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All laboratory Instructors, Dept. of Automobile Engg., MCKVIE



AICTE - ISTE SPONSORED SIX DAYS ONLINE INDUCTION/ REFRESHER PROGRAMME

on

Introduction to Hybrid and Electric Vehicle Technology in Automotive Sector

23rd – 30th December 2021



Organized by

Department of Automobile Engineering
MCKV Institute of Engineering
(An Autonomous Institute under UGC Act. 1956,
NAAC Accredited 'A' grade institute, Approved by
AICTE, Affiliated to MAKAUT, WB)
243, G. T. Road (N), Liluah – 711204, Howrah
West Bengal, India

ABOUT THE INSTITUTION

MCKV Institute of Engineering is one of the top engineering colleges in West Bengal established almost two decades ago with a vision to foster the spirit of technological learning and its application by creating the right kind of opportunity and ambiance for educating young minds in the digital era. The Institute has been accredited by NAAC with an 'A' Grade, and it is an Autonomous Institute (under the Act. of UGC, 1956), affiliated to MAKAUT, WB and approved by AICTE. It offers NBA accredited programs in the field of Engineering like Mechanical Engineering, Electrical Engineering, Computer Science Engineering, Electronics, and Communication Engineering, Information Technology, and last but not least a very niche stream that is Automobile Engineering. The Institute is committed to providing quality education to cater to the diversified needs of the industry as well as the society at large. Its state-of-the-art infrastructure, industry-academia collaborations, experienced senior faculty, and rigorous hands-on training sessions, transform students into industry-ready professionals.

ABOUT THE DEPARTMENT

MCKVIE is the pioneer in establishing the Automobile Engineering department in the Eastern India in the year 2003. The department offers four years B.Tech degree program in Automobile Engineering under the affiliation of MAKAUT. The department has developed many industry attached Labs in association with VOLVO EICHER Commercial Vehicle, Bosch Ltd, BMW India, Hyundai Motors and Dassault Systems for imparting quality training as per the needs of industry. Presently an Electric Vehicle Laboratory has been developed in collaboration with Logiczap Technologies. By membership with the Society of Automotive Engineers (SAE), Students design and manufacture their vehicles to participate in the national level competition organized by SAE INDIA namely, BAJA-SAE, eBAJA, SUPRA-SAE and EFFICYCLE every year. Alumni of the Department are working in all leading automotive companies and manufacturing organization in India and abroad.

ABOUT THE PROGRAM

At present electric vehicles (EVs) are being considered as the most promising solution to mitigate the increase in carbon footprints resulting from vehicular emissions and preserve ever depleting fossil fuel reserve on earth. Govt of India has instituted various enabling policies to promote the implementation of EVs in the country. But the industry is facing a shortage of manpower skilled in this upcoming technology. Lack of adequate EV charging infrastructure is also becoming a point of concern. Under such circumstances, hybrid electric vehicles (HEVs) can be considered as a temporary way to bridge the gap between traditional vehicles and EVs. The objective of the present refresher/ induction program is to provide participants with necessary insights about basics, emerging trends & challenges in the field of EVs and HEVs, to develop the ability to train students in EV and HEV technology to cater to the shortage of trained manpower in this domain and to widen opportunities for corresponding research, testing & consultancy activities.

COURSE CONTENTS

- Introduction to EV and HEVs
- Power trains in HEVs
- Mechatronics control for Engine Management system
- Electric Motor Technology for EV and HEVs
- Motor selection and its control for EV and HEVs
- Lithium-ion battery : material, module development, battery management system and packaging
- Fuel cell
- EV charging facilities and infrastructure
- Sensor Technology for the Automobile Industry
- Automotive materials for EVs

ELIGIBILITY

This program is open to Faculty Members and Research Scholars of AICTE approved Engineering colleges and Polytechnic colleges. There will be a maximum of 100 participants

selected based on first come first serve. Priority will be given to ISTE Life Members.

REGISTRATION PROCESS AND GUIDELINES

- Eligible participants are requested to fill the online registration form on or before 15/12/2021
- **Link for Registration:**
<https://forms.gle/h46HMTUZsKYPt2Pa9>
- Intimation of acceptance of the registration through email: 18/12/2021
- There is no Registration Fee.
- E-Certificates will be issued by AICTE-ISTE to the participants complying with the criteria for certification.
- As per norms of ISTE, the certificates will be issued to those who maintain a minimum of 80% attendance and score a minimum of 60% marks in the test to be conducted at the end of the online program and also in the random tests to be conducted on daily basis.
- Submission of the feedback form is mandatory after each session.
- The program will be conducted in online mode.
- Meeting link will be sent through WhatsApp group of the program/ registered email id of the participants

ADDRESS FOR COMMUNICATION

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